

THE TARSAL AND ANTENNAL CHARACTERS OF *PSOCIDAE*.

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By a mere chance I see that a statement recently published by me concerning the tarsal structure of *psocidae* confirms, in a most satisfactory manner, that made by Prof. Westwood in 1857 (Proc. Ent. soc. Lond., series 2, vol. iv, pp. 63, 64) regarding certain coleoptera.

Being occupied with the *atropina*, I was astonished to find that the young forms have only two-jointed tarsi (instead of three-jointed, as is found in the imago), but the last joint, internally, in the middle, shows a more or less visible division, where the 3rd joint (the median) will be formed, and just below it are one or two small bristles. I have observed this in *A[tropos] divinatoria* (reared by myself), *succinica*, and *oleagina*, and also in *Hyperetes tessellatus*. So long as the young have only two-jointed tarsi, the antennae have also less joints. Thus, in *A. divinatio-*

*ria* the latter have only 12 instead of the 15 of the imago; in *Hyperetes* the proportions are 13 to 23. But, although the third (middle) joint of the tarsi is produced by a division of the apical, it is just the contrary with the antennae. In these the two thick basal joints, and the apical joint are not divided; but in some species all the intermediate joints are so. *Hyperetes* is in the latter case, all the 10 intermediate joints being divided in the imago, as I can show from preparations. It is a remarkable fact that the mysterious *Hyperetes* shows, in its earlier stages, precisely the normal number (13) of joints for the *psocidae*. I am not prepared to give an opinion as to this genus. Other genera, such as *Caecilius*, commonly considered to have only two-jointed tarsi, possess a small aborted third joint, just as occurs in many coleoptera.

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THE CHIGOE IN AFRICA.—It is stated in Burton and Cameron's "To the Gold Coast for Gold" that the chigoe (*Pulex penetrans*) has been recently introduced and has spread all over the West African seaboard and far into the interior. At the time of Captain Burton's first visit (1862) it was unknown

on the west coast; but now it ranks with the indigenous red, white and black ants, centipedes, scorpions, venomous spiders and flies of the tsetse group, as among the chief plagues of that region.—*Amer. naturalist*, June 1883, v. 17, p. 664.